



wherein:

-  $\Delta$  is selected from the group consisting of a biotinyl radical, a biocytinyl radical, a hydrogen atom, an acetyl ( $\text{CH}_3\text{CO-}$ ) radical, an aliphatic chain which may contain one or two thiol, an aldehyde functional group and an amine functional group,

- Z represents a peptide sequence, selected from the group consisting of the sequences of the formulae (II) to (IV):

$-\text{E}_1\text{-Ser-E}_2-$  (II),

$-\text{E}_1\text{-Gln-E}_2-$  (III), and

$-\text{E}_1\text{-Asn-E}_2-$  (IV)

wherein:

$-\text{E}_1$  represents a peptide sequence of 0 to 9 amino acids  
and

$-\text{E}_2$  represents a peptide sequence of 0 to 5 amino acids,

$-\Theta$  is selected from the group of peptide sequences:

- Arg Gly Arg Leu Ile- (SEQ ID NO: 15)
- Arg Gly Arg Leu Val- (SEQ ID NO: 16)
- Arg Gly Lys Leu Ile- (SEQ ID NO: 17)

-Arg Gly Lys Leu Val-

(SEQ

-Lys Gly Arg Leu Ile-

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(SEQ ID NO: 20) P63163US0

-Lys Gly Arg Leu Val-

(SEQ ID NO: 20)

-Ω attached to the -CO- group of serine, is selected from the group consisting of:

- a hydroxyl (-OH) radical, an amino (-NH<sub>2</sub>) radical,
- an alkoxy radical comprising from 1 to 6 carbon atoms,
- a peptide sequence of formula (V):

-Val-Σ-Ψ

(V)

wherein Σ represents a sequence of formula (VI):

-(AA<sub>1</sub>)-Trp Asn-(AA<sub>2</sub>)-(AA<sub>3</sub>)

(VI)

wherein:

(AA<sub>1</sub>) represents an amino acid different from lysine,

(AA<sub>2</sub>) represents an amino acid,

(AA<sub>3</sub>) is selected from the group consisting of a serine and a threonine residue,

and Ψ, attached to the -CO- residue of the free AA<sub>8</sub> amino acid, is

selected from the group consisting of an OH group, a NH<sub>2</sub> group and an

alkoxy radical comprising from 1 to 6 carbon atoms,

-and a peptide sequence of formula (VII):

-Val-Ψ

(VII)

wherein  $\Psi$ , attached to the -CO- residue of valine, has the same meaning as for the formula (V).

32. Synthetic peptides of formula (I) according to claim 31 wherein  $\Delta$  represents an aliphatic chain, said aliphatic chain being selected from the group consisting of an alkyl chain of 1 to 6 carbon atoms, an alkenyl chain of 2 to 6 carbon atoms, and an aminoalkylcarbonyl chain of 2 to 6 carbon atoms.

33. Synthetic peptides of formula (I), according to claim 31, wherein:

- $\Delta$  is selected from the group consisting of a biotinyl radical, a hydrogen atom, an aliphatic chain which may contain one or two thiol, an aldehyde functional group and an amine functional group,

-Z represents a peptide sequence of formula (II) or (III), wherein  $\Xi_1$  represents a peptide sequence of two amino acids and  $\Xi_2$  represents an amino acid, or a peptide sequence of formula (IV), wherein  $\Xi_1$  represents a peptide sequence of nine, eight or three amino acids and  $\Xi_2$  represents a peptide sequence of five amino acids,

- $\Theta$  is selected from the group consisting of peptide sequences of formulae:

- Arg Gly Arg Leu Val- (SEQ ID NO: 16)

-Lys Gly Arg Leu Val- (SEQ ID NO: 20)

and

- $\Omega$  is selected from the group consisting of a hydroxyl group, the peptide sequence (VII)

and one of the following sequences representing the peptide sequence of formula (V):

- Val Arg Trp Asn Glu Thr-Ψ,
- Val Gln Trp Asn Glu Thr-Ψ, and
- Val Gln Trp Asn Ser Thr-Ψ.

34. Synthetic peptides of formula (I), according to claim 31, wherein Z is selected from the group consisting of peptide sequences of formulae:

- Leu Leu Ser Ser- (SEQ ID NO: 21)
- Leu Leu Asn Ser- (SEQ ID NO: 22)
- Arg Leu Asn Ser- (SEQ ID NO: 23)
- Ala Leu Glu Thr Leu Leu Gln Asn Gln Gln Leu Leu Asn Ser- (SEQ ID NO: 24)
- Ala Leu Glu Thr Leu Leu Gln Asn Gln Gln Leu Leu Asp Leu- (SEQ ID NO: 25)
- Ala Leu Glu Thr Leu Leu Gln Asn Gln Gln Leu Leu Asn Ile- (SEQ ID NO: 26)
- Leu Asn Gln Gln Arg Leu Leu Asn Ser- (SEQ ID NO: 27)

and

- Arg Ala Leu Glu Thr Leu Leu Asn Gln Gln Arg Leu Leu Asn Ser- (SEQ ID NO: 28).

35. Synthetic peptides of formula (I) according to claim 31 including one of the following sequences:

-LLSLWGCRGRLVCYTSVQWNET-

*redundant*

or

-Leu Leu Ser Leu Trp Gly Cys Arg Gly Arg Leu Val Cys Tyr Thr Ser Val Gln Trp Asn

1

5

10

15

20

Glu Thr- (SEQ ID NO: 2)

22

-LLSSWGCKGRLVCYTSVQWNET-

or

-Leu Leu Ser Ser Trp Gly Cys Lys Gly Arg Leu Val Cys Tyr Thr Ser Val Gln Trp Asn

1

5

10

15

20

Glu Thr- (SEQ ID NO: 3)

22

-LLSSWGCKGRLVCYTSVQWNST-

or

-Leu Leu Ser Ser Trp Gly Cys Lys Gly Arg Leu Val Cys Tyr Thr Ser Val Gln Trp Asn

1

5

10

15

20

Ser Thr- (SEQ ID NO: 4)

22

-LLQSWGCKGRLVCYTSVQWNST-

or

-Leu Leu Gln Ser Trp Gly Cys Lys Gly Arg Leu alV Cys Tyr Thr Ser Val Gln Trp Asn  
1 5 10 15 20

Ser Thr- (SEQ ID NO: 5)

22

-LLSSWGCRGRLVCYTSVQWNET-

or

-Leu Leu Ser Ser Trp Gly Cys Arg Gly Arg Leu Val Cys Tyr Thr Ser Val Gln Trp Asn  
1 5 10 15 20

Glu Thr- (SEQ ID NO: 8)

22

-LLSSWGCKGRLVCYTS-

or

-Leu Leu Ser Ser Trp Gly Cys Lys Gly Arg Leu Val Cys Tyr Thr Ser- (SEQ ID NO: 9)  
1 5 10 15

-LLNSWGCKGRLVCYTS-

or

-Leu Leu Asn Ser Trp Gly Cys Lys Gly Arg Leu Val Cys Tyr Thr Ser- (SEQ ID NO: 10)

1

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15

-ALETLLQNQQLLNSWGCRGRLVCYT~~SVRWNET-~~

-Dehaen 6149910 (#6)  
(#25)

or

-Ala Leu Glu Thr Leu Leu Gln Asn Gln Gln Leu Leu Asn Ser Trp Gly Cys Arg Gly

1

5

10

15

Arg Leu Val Cys Tyr Thr Ser Val Arg Trp Asn Glu Thr- (SEQ ID NO: 11)

20

25

30

-ALETLLQNQQLLNIWGCRGRLVCYT~~SVRWNET-~~

or

-Ala Leu Glu Thr Leu Leu Gln Asn Gln Gln Leu Leu Asn Ile Trp Gly Cys Arg Gly

1

5

10

15

Arg Leu Val Cys Tyr Thr Ser Val Arg Trp Asn Glu Thr- (SEQ ID NO: 12)

20

25

30

-ALETLLQNQQLLDLWGCRGRLVCYT~~SVRWNET-~~

or

-Ala Leu Glu Thr Leu Leu Gln Asn Gln Gln Leu Leu Asp Leu Trp Gly Cys Arg Gly

1 5 10 15

Arg Leu Val Cys Tyr Thr Ser Val Arg Trp Asn Glu Thr- (SEQ ID NO: 13)

20 25 30

-LNQQRLLNSWGCKGRLVCYTSV-

or

-Leu Asn Gln Gln Arg Leu Leu Asn Ser Trp Gly Cys Lys Gly Arg Leu Val Cys Tyr

1 5 10 15

Thr Ser Val- (SEQ ID NO: 14)

20

 -RALETLLNQQRLLNSWGCKGRLVCYTSV-

or

- Arg Ala Leu Glu Thr Leu Leu Asn Gln Gln Arg Leu Leu Asn Ser Trp Gly Cys Lys

1 5 10 15

Gly Arg Leu Val Cys Tyr Thr Ser Val- (SEQ ID NO: 15)

20 25

-RLNSWGCKGRLVCYTSV-



or

- Arg Leu Asn Ser Trp Gly Cys Lys Gly Arg Leu Val Cys Tyr Thr Ser Val- (SEQ ID NO: 16)

1

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10

15

36. Composition containing at least one synthetic peptide of formula (I) according to claim 31.

37. Composition according to claim 36 containing, as the at least one synthetic peptide of formula (1), SEQ ID NO: 3 and SEQ ID NO: 1.

38. Composition containing at least one synthetic peptide of formula (I) according to claim 31 and at least one group O HIV-1 recombinant peptide.

39. Composition containing at least one synthetic peptide of formula (I), according to claim 31, and at least one HIV-1 and/or HIV-2 recombinant or synthetic peptide.

40. Immunoassay method comprising the steps of:

a) contacting at least one synthetic peptide of formula (I) according to claim 31, previously detectably labelled, with a sample likely to contain antibodies directed to said peptides;

b) detecting the presence or absence of a complex between said peptides and said antibodies;

and

c) optionally assaying the amount of said antibodies in the sample.

**41.** Immunoassay method comprising the steps of:

a) contacting a composition according to claim 36, containing at least one synthetic peptide of formula (I), previously detectably labelled, with a sample likely to contain antibodies directed to said peptides;

b) detecting the presence or absence of a complex between said peptides and said antibodies;  
and

c) optionally assaying the amount of said antibodies in the sample.

*02*  
*concl'd*  
**42.** Diagnostic kit including at least one synthetic peptide of formula (I), according to claim 31.

**43.** Diagnostic kit including a composition according to claim 36.--